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Bender Hygienic Laboratory

*Report of the Director for the Year Ending
August 31, 1919*

By ELLIS KELLERT, M. D.

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BENDER HYGIENIC LABORATORY

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BENDER HYGIENIC LABORATORY.

REPORT OF THE DIRECTOR FOR THE TWO YEARS ENDING
AUGUST 31, 1919.

By ELLIS KELLERT, M. D.

To the Trustees of the Bender Hygienic Laboratory:

Gentlemen—I have the honor to submit my report for the two years ending August 31, 1919.

Owing to the various war activities, the necessity for economy in time and materials, and contraction of the staff it was decided to omit the annual report for 1918 and to prepare a combined report for the past two years.

1. ORGANIZATION.

In March, 1918, Dr. Byron E. Chapman was called into active service, and ordered to Fort Oglethorpe. On January 1, 1918, your director was appointed an active member of Medical Advisory Board, No. 28 and acted in the capacity of laboratory consultant. As the war progressed letters from the Surgeon-General's Office indicated a most urgent need for trained pathologists. Having determined to enter military service your director sought competent assistants to conduct the laboratory work during his absence and was fortunate in securing the services of Dr. Arvilla Lang whose general laboratory training and experience well qualified her for the routine work of this institution.

As in the past, the facilities of the laboratory have been utilized by individuals seeking training in laboratory science. Among these were three medical and six non-medical workers. It may be repeated here that the laboratory is always at the disposal of physicians seeking post-graduate instruction or who may desire to investigate a special problem arising in practice.

THE WORK OF THE LABORATORY.

The tables which follow show the work of the laboratory for the past two years. There will be noted a decided increase in

the number of examinations made for the year ending September 1, 1918. This may be attributed to two factors: first, the advent of the war when there was a diminution in medical practice and when a large percentage of physicians in the city left for military service, and secondly, to the establishment of laboratories at the Albany Hospital. During the year 1919 with the return of the city health work to the laboratory, the number of specimens examined again greatly increased.

Of particular interest are the tables of surgical specimens received and the post-mortem examinations in which the clinical diagnoses are compared with the necropsy findings.

WAR WORK.

It may be unnecessary to state that the laboratory and staff were engaged to the fullest extent possible in the various war activities. A year prior to the war your director was a collaborator in working out a plan which subsequently became known as the "Albany Idea of Military Preparedness," and which received the commendation of the War department. A member of your board, Dr. Joseph A. Cox, contributed largely to the successful demonstration of this plan. In January, 1918, your director received an appointment as member of Medical Advisory Board No. 28, serving thereon till September, 1918, when he was called into active service. This Board met three evenings each week and considerable time was devoted to the work. In connection with my service on the Board, a large number of examinations were made by the laboratory.

In the fall of 1918 all the medical members of the staff were in active service, Dr. S. H. Curtis was sent to the army laboratory at Atlanta, Ga. After several months at Fort Oglethorpe, Dr. B. E. Chapman was attached to Evacuation Hospital No. 2. Dr. Archambault also served on Medical Advisory Board No. 28. Mr. Willcomb who held a commission in the Sanitary Corps was ordered to Camp Dix. Your Director served at New Haven, Conn., performing the necropsies at U. S. Hospital No. 16, and carrying on special studies on influenza and of the lungs of dogs subjected to the action of the highly irritating gases used

in the war. In the latter part of December he was ordered to Embarkation Hospital at Newport News as pathologist and received his discharge in July, 1919. At Newport News special studies were made of hemolytic streptococci and carriers of these organisms.

Owing to the war work of the State Laboratory, that organization found it necessary to obtain increased working space. After having encountered difficulties in finding a suitable building the director of the State Laboratory was offered all unoccupied rooms in the Bender Laboratory. By economy on our part and conjoint use of certain rooms we were enabled to tender the State half the working space in the laboratory. Because of these increased facilities the State Laboratory was able to continue the production of vaccines and antitoxins on a large scale and to complete researches upon arsphenamin.

GIFTS.

Acknowledgment of donations to the laboratory is made as follows: Dr. Edgar A. Vander Veer, many bound volumes; Dr. Erastus Corning, laboratory apparatus; Dr. LaSalle Archambault, apparatus, stains and a collection of gall-stones; Dr. Charles K. Winne, twenty-five dollars for experimental work; Dr. Appleton, books on dental pathology; Dr. H. Judson Lipes, books on embryology and gynecology; Dr. Abraham Ball, reagents.

In this connection, the attention of physicians is called to the library of the laboratory which is growing steadily. Works of reference are desired, particularly in the fields of pathology and bacteriology. Standard works on medicine and surgery are also found very useful and the laboratory would be pleased to receive such books.

THE DIAGNOSIS OF DIPHTHERIA.

Despite the constant dissemination of information on the bacteriologic diagnosis of diphtheria, many physicians do not clearly realize the limitations of the laboratory in this respect. Aside from the various circumstances which may lead to atypical

growth in the throat cultures, cases are encountered in which the morphology of the organisms is such as to justify only a report of suspicious for *B. diphtheriae*. In such event it becomes necessary to identify the suspected organisms and this process requires three to seven days. The method is to isolate the organisms in pure culture which is injected into guinea pigs. Often organisms morphologically diphtheria are isolated from the throat but prove to be non-virulent for guinea pigs. This does not, however, preclude their being virulent for human beings. It cannot be urged too strongly upon all physicians that cases which are clinically diphtheria should be treated with antitoxin without waiting for laboratory reports.

THE WASSERMANN REACTION.

No single diagnostic procedure has attained the importance and value now accorded the complement-fixation reaction for syphilis. Physicians must bear in mind, however, that this reaction has its limitations and furthermore is not performed with a standardized technique. On this account some variation will be found in the results obtained with a given specimen by two or more laboratories. The difference may reach as high as twenty-five to fifty per cent., but should not be greater. Occasionally, physicians in Albany will send blood from the same patient to both the Bender Laboratory and the State Laboratory. Since these laboratories perform the reaction by a slightly different method we attempted to determine the degree of variation by a series of comparative tests with the following results:

Total number of tests.....	50
Identical results.....	41
Failure to agree.....	9
25% variation.....	5
50% " 	3
100% " 	1
Total.....	<hr/> 50

Thus it is seen that in two laboratories where the test is carefully performed, but by slightly different methods, that marked variation in results rarely occurs.

GROWTH OF THE PUBLIC HEALTH WORK.

The public health diagnostic work in Albany has increased rapidly during the past few years, and from present indications is likely to be further augmented.

During 1910, the total examinations for the city were 2,558, during 1915, 3,877, and for the present calendar year will probably total 13,000 examinations. A similar increase in diagnostic work is noted by all laboratories throughout the State, and it is very evident that physicians are with increasing frequency utilizing every aid in the endeavor to make a correct diagnosis. A marked increase is noted in the examinations for venereal disease and this may be attributed largely to the publicity given these infections by the State, National Health and War departments. The average patient has become quite familiar with the usefulness of the medical laboratory in the diagnosis of infective disease and now the public should be educated to the advantage of other forms of examinations, as of tissues removed at operation, early histologic examination of tumors, routine examination of the blood and urine, and the various functional tests of proven value.

POST-GRADUATE INSTRUCTION.

The laboratory is so well equipped and so well known, that the advisability of giving post-graduate instruction has suggested itself to many of our associates. With our lecture and class rooms, apparatus, gross and microscopic material and abundant routine, excellent courses for physicians could be maintained. Since the recent war physicians and surgeons have become particularly anxious for this form of instruction or review in the fundamental medical sciences. Our form of instruction would call for one or two meetings each week, thus enabling the doctor to continue his practice without interruption. As a beginning, we announced a course in surgical-pathology to begin in January and twenty men registered for instruction. Twelve men have

been in attendance and after several meetings it became known that many more would have attended had the meetings taken place during a milder season, so that the doctors could use their automobiles to drive into the city. With this in mind the course when repeated should begin in the early spring or fall. The experience thus far indicates that these courses will be popular and useful.

PUBLICATIONS

- DR. H. S. BERNTON..... Uterus showing Two Types of Malignancy. *Proc. N. Y. Path. Soc.* Jan.-May 1917.
- DR. ELLIS KELLERT..... Pathology of the Mouth with Special Reference to War Dental Surgery. (Privately printed by Dental Soc.).
- DR. LASALLE ARCHAMBAULT. The Haematogenous Invasion of the Cerebro-Spinal Axis in Poliomyelitis. *The Alienist & Neurologist.* Jan. 1918.
- DR. KELLERT..... An outline for the combined teaching of Pathology and Bacteriology in small Medical Colleges. *Jour. of Lab. and Clin. Med.* April 1918.
- DR. KELLERT..... Cocaine Poisoning—Report of a case with Necropsy. *Jour. of Lab. and Clin. Med.* Dec. 1918.
- DR. KELLERT..... Observations on the Colloidal Gold reaction with Cerebro-Spinal fluid. *Jour. of the Am. Med. Sci.* Feb. 1920.
- DR. KELLERT..... Medical Laboratories. *The Scientific Monthly.* Nov. 1918.
- DR. KELLERT..... The Pathologic Histology of Tonsils containing Hemolytic Streptococci. *Jour. of Medical Research.* (In Press).
- DR. KELLERT..... On the Susceptibility of X-Rayed Guinea-pigs to Inoculation with Bacillus Tuberculosis. *Jour. of Medical Research.* Sept. 1918.

The functions and usefulness of the Bender Laboratory for years past are matters of history. The institution has always ranked high in scientific work and medical teaching and it is to be regretted that in recent years attempts have been made by those not connected with the institution to curtail that usefulness. I doubt that the citizens of Albany are really aware of the purposes of the laboratory and to make Albanians better acquainted with this institution, I think your board may well undertake a campaign of education. It has always appeared to me that the physicians of the city and county so vitally con-

cerned in the character of the work of the laboratory should be required to take a more active interest in the affairs of the laboratory and this could be best brought about by making them members of the Corporation. In like manner there are doubtless many men and perhaps women active in civic affairs who would be pleased to devote a portion of their energies toward the welfare of so public an institution. When it is realized that this organization always has been and always can be self-supporting and that the interest and moral support of the citizens are chiefly desired, no fears need be entertained for the future.

Since the day the laboratory was first occupied our greatest asset has been the spirit of the institution. Service and co-operation have always been our chief desire and it is this spirit which I have endeavored my utmost to maintain. Any change of attitude tending to lessen this spirit will prove fatal to the scientific work of the laboratory. Money is always desirable and with it much can be accomplished, but money alone will not solve problems. Wealth alone will not clarify the vision nor cause nature to yield her inmost secrets. Most important of all are sincerity of purpose, freedom of thought, co-operation and harmonious surroundings. These conditions prevail at the present time and let us hope that this extremely useful institution, with its excellent traditions, its past and present position will continue to remain a source of pride and comfort to the citizens of Albany. Albany may well cherish this pioneer in scientific medicine as the medical fraternity of this city will gratefully attest.

TABLE I
ROUTINE EXAMINATIONS MADE AT THE BENDER HYGIENIC LABORATORY
FROM SEPT. 1, 1917 TO SEPT. 1, 1918

	General Bacteriology and Clinico- pathological examina- tions	Surgical specimens	Post- mortem examina- tions	Total
Albany Hospital.....	1,056	284	1	1,341
St. Peter's Hospital.....	456	415	9	880
Child's Hospital and St. Mar- garet's Home.....	38	12	3	53
City Department of Health..	3,652	.....	.....	3,652
Homeopathic Hospital.....	541	340	2	883
All other sources.....	2,011	909	20	2,940
Total.....	7,754	1,960	35	9,749

1,566 should be subtracted from the bacteriological total. This figure represents the diagnostic work, chiefly for Pavilion G., also Wassermann tests performed for the various hospitals, which are included under city health work. Corrected total number of specimens examined, 8,183.

TABLE II
ROUTINE EXAMINATIONS MADE AT THE BENDER HYGIENIC LABORATORY
FROM SEPT. 1, 1918 TO SEPT. 1, 1919

	General Bacteriology and Clinico- pathological examina- tions	Surgical specimens	Post- mortem examina- tions	Total
Albany Hospital.....	3,186	5	.....	3,191
St. Peter's Hospital.....	329	436	.....	765
Child's Hospital and St. Mar- garet's Home.....	47	12	.....	59
City Health Department....	8,120	.....	.....	8,120
Homeopathic Hospital.....	578	363	2	943
All other sources.....	2,059	950	14	3,023
Total.....	14,319	1,766	16	16,101

3,613 should be subtracted from the bacteriological total. This figure represents the diagnostic work, chiefly for Pavilion G., also Wassermann tests performed for the various hospitals, which are included under city health work. Corrected total number of specimens examined, 12,488.

TABLE III (Special tests included in Table I)

	1914	1915	1916	1917	1918	1919
Animals inoculated.....	63	86	134	418	184	82
Wassermann reactions.....	904	1,153	1,465	2,218	1,820	2,466
Blood cultures.....	36	59	68	43	38	52
Autogenous vaccines prepared....	49	58	116	78	59	68
Milk examinations.....	366	580	1,104	1,208	697	1,583
Totals.....	1,418	1,936	2,887	3,965	2,798	4,251

TABLE IV—GENERAL PATHOLOGICAL SPECIMENS

	Male	Fe- male	Total	Max. age	Min. age
Breast:					
Chronic inflammation.....	3	14	17	51	11
Chronic cystic mastitis.....	..	13	13	66	34
Sarcoma.....	2	2	4	69	25
Carcinoma.....	1	64	65	68	28
Adeno-fibroma.....	2	28	30	52	15
All others.....	1	11	12	65	18
Gall-bladder:					
Acute and chronic inflammation..	3	16	19	69	28
Chronic inflammation.....	21	100	121	73	20
Gangrenous.....	1	2	3	70	30
Carcinoma.....	2	3	5	67	49
Calculi.....	13	50	63	70	20
Normal.....	2	10	12	67	22
Haemorrhoids.....	39	27	66	71	15
Hernia sac.....	61	41	102	89	13 mos.
Hodgkin's disease.....	1	..	1	12	12
Kidney:					
Calculi.....	2	2	4	38	36
Acute inflammation.....	4	4	8	74	25
Chronic inflammation.....	3	5	8	68	25
Tuberculosis.....	2	1	3	42	27
Carcinoma.....	1	3	4	67	18 mos.
Pyonephrosis.....	..	1	1	61	61
Lymph nodes—neck:					
Tuberculosis.....	37	58	95	59	26 mos.
Sarcoma.....	3	1	4	60	8 mos.
Carcinoma.....	11	..	11	90	45
Prostate gland:					
Hypertrophy.....	18	..	18	81	51
Glandular hyperplasia.....	48	..	48	84	57
Chronic inflammation.....	24	..	24	82	51
Carcinoma.....	6	..	6	74	66

TABLE IV—GENERAL PATHOLOGICAL SPECIMENS (Con.)

	Male	Female	Total	Max. age	Min. age
Testicle:					
Dermoid cyst.....	1	..	1	19	19
Tuberculosis.....	9	..	9	62	29
Sarcoma.....	2	..	2	52	37
Acute and chronic inflammation.....	2	..	2	60	57
Chronic inflammation.....	3	..	3	56	3
Thyroid gland:					
Chronic inflammation.....	1	..	1	57	57
Colloid goitre.....	11	42	53	60	13
Exophthalmic goitre.....	..	9	9	55	16
Adenoma.....	1	17	18	56	32
Adenoma-cystoma.....	4	21	25	63	15
Bone:					
Osteomyelitis.....	13	4	17	80	8
Tuberculosis.....	1	..	1	23	23
Tuberculosis (Miscellaneous).....	23	14	37	68	1
Amputations:					
Toes.....	3	3	6	80	24
Leg.....	4	4	8	82	53
Arm.....	1	..	1	17	17
Finger.....	11	..	11	48	16
Echinococcus cyst (inguinal region)	1	..	1	8	8
Tonsils:					
Chronic inflammation with hypertrophy.....	34	42	76	56	3
Tuberculosis.....	2	1	3	19	3
Lymphosarcoma.....	1	..	1	53	53
Carcinoma.....	1	..	1	..	..
All other specimens (not classified).	210	228	438	83	6 mos.
Foetus:					
Full term.....					2
Less than six months.....					19
Guinea pigs:					
Number of negative guinea pigs inoculated for tuberculosis.....					204
Number of positive guinea pigs inoculated for tuberculosis.....					79

TABLE V

SURGICAL SPECIMENS CONSISTING OF UTERUS, ADNEXA AND APPENDIX*

	Sin- gle	Mar- ried	Civil condition not indicated	Total	Max. age	Min. age
Uterus:						
Hypertrophy.....	9	80	18	107	67	21
Leiomyoma.....	25	116	19	160	67	24
Normal.....	3	8	1	12	63	25
Atrophy.....	..	3	1	4	55	24
Carcinoma.....	..	6	..	6	73	42
Endometrium:						
Glandular hyperplasia.....	16	72	11	99	65	18
Interstitial hyperplasia.....	1	3	2	6	49	22
Carcinoma.....	1	6	..	7	67	45
Tuberculosis endometritis.....	..	1	..	1	24	24
Normal.....	2	23	3	28	55	19
Cervix:						
Hypertrophy.....	..	13	1	14	59	28
Nabothian cyst.....	..	7	2	9	55	38
Chronic inflammation.....	1	51	9	61	70	22
Leiomyoma.....	..	1	..	1	50	50
Carcinoma.....	..	21	3	24	68	29
Sarcoma.....	..	1	..	1	35	35
Normal.....	..	13	4	17	52	19
Ovaries:						
Normal.....	4	42	11	57	57	22
Simple cyst.....	18	62	9	89	68	18
Dermoid cyst.....	1	5	..	6	59	36
Ovarian cysts.....	4	22	4	30	68	24
Chronic periovaritis.....	..	9	1	10	68	24
Carcinoma.....	..	5	..	5	65	41
All other tumors.....	1	5	..	6	76	42
Tubes:						
Normal.....	8	55	11	74	60	22
Carcinoma.....	..	1	..	1	47	47
Acute inflammation.....	..	2	1	3	34	27
Chronic inflammation.....	7	60	10	77	68	24
Acute and chronic inflammation	3	8	1	12	46	18
Tuberculosis.....	..	1	..	1	24	24
Appendix:						
Retrograde changes.....	..	5	4	9	56	22
Chronic inflammation.....	3	19	10	32	60	21
Chronic obliterating inflammation	..	3	2	5	54	46
Normal.....	..	13	8	21	54	24
Total.....					195 cases	

*NOTE—Removed during hysterectomy.

TABLE VI

APPENDICES

	Male	Max. age	Min. age	Fe- male	Max. age	Min. age	Total
Retrograde changes.....	10	44	15	35	60	13	45
Acute inflammation.....	47	65	3	53	50	5	100
Chronic inflammation...	102	61	8	235	60	9	337
Acute and chronic in- flammation.....	39	68	9	52	68	7	91
Acute gangrenous.....	60	71	4	33	67	7	93
Tuberculous periappen- dicitis.....	1	4	4	1	..	...	2
Chronic obliterating in- flammation.....	33	62	3	76	59	11	109
Chronic periappendicitis.	19	59	9	35	55	17	54
Carcinoma.....	...	..	..	2	63	28	2
Normal.....	23	47	17 mos.	58	51	8	81
Total.....							914

TABLE VII

UTERINE CURETTINGS

	Sin- gle	Mar- ried	Civil condition not indi- cated	Max. age	Min. age	Total
Interstitial hyperplasia.....	..	6	2	47	22	8
Glandular hyperplasia.....	22	38	15	54	15	75
Acute inflammation.....	4	8	2	43	22	14
Chronic inflammation.....	1	5	2	46	25	8
Carcinoma.....	1	7	3	65	41	11
Normal.....	5	12	13	43	19	30
Pregnancy.....	2	38	4	37	18	44
Total.....						190

TABLE VIII
SURGICAL SPECIMENS CONSISTING OF APPENDIX, TUBE AND OVARY

	Single	Married	Civil condition not indicated	Total	Max. age	Min. age
Appendix:						
Retrograde changes.....	..	2	2	4	57	29
Chronic inflammation.....	18	40	11	69	49	18
Acute and chronic inflammation..	1	5	1	7	31	17
Chronic periappendicitis.....	8	10	..	18	56	17
Carcinoma.....	..	1	..	1	49	49
Normal.....	6	11	10	27	44	19
Tubes:						
Chronic salpingitis.....	13	52	12	77	73	19
Acute and chronic salpingitis....	13	34	4	51	60	17
Tuberculous salpingitis.....	1	1	..	2	28	22
Pregnancy.....	..	26	1	27	40	24
Haematosalpinx.....	..	5	..	5	40	24
Hydrosalpinx.....	..	4	3	7	33	25
Pysolpinx.....	6	10	..	16	54	16
Normal.....	7	10	7	24	69	9
Ovaries:						
Chronic inflammation.....	3	14	3	20	53	19
Acute and chronic inflammation..	2	8	1	11	49	17
Simple cysts.....	22	56	16	94	69	17
Unilocular cysts.....	6	11	4	21	73	20
Haemorrhagic cysts.....	3	5	4	12	41	19
Corpus luteum cysts.....	9	19	8	36	50	17
Adenocystoma.....	..	2	..	2	32	..
Chronic periovaritis.....	6	18	5	29	60	19
Dermoid cysts.....	2	6	1	9	50	17
Myxosarcoma.....	..	1	2	3	54	12
Tuberculosis.....	1	..	..	1	22	22
Carcinoma.....	1	2	..	3	52	24
Fibroma.....	1	..	..	1	59	59
Normal.....	3	8	1	12	59	25
Total.....	187 cases					

TABLE IX
REGIONAL CLASSIFICATION OF TUMORS

	Carcinoma	Sarcoma	Lipoma	Endothelioma	Leiomyoma	Papilloma	Fibroma	Adenofibroma	Myxofibroma	Myxoma	Chondroma	Adenoma	Adenomyoma	Haemangioma
Head:														
Lip.....	42					1								1
Tongue.....	3													
Cheek.....	9													
Jaw.....	6	3	1	1										1
Eye.....	2	1				1								
Salivary gland.....	1	1		6										
Scalp.....	1	2	1											
Lymph node.....	14	3												
Nose.....	5	1												
Tonsils.....	1	1												
Neck.....	6	1	6				1					1		
Ear.....	4	1				1								
Forehead.....	3	2												
Face.....	6	1												
Chest:														
Back.....		1	1											
Breast.....	65	4						30						
Axilla.....	28	2												
Abdomen:														
Wall.....		1												
Stomach.....	3													
Large intestine.....	4													
Small intestine.....	1						1							
Sigmoid.....	2													
Rectum.....	11					1								
Liver.....	2													
Bladder.....	5													
Kidney.....	3													
Pelvis:														
Uterus.....	6				160								3	
Tubes.....	1													
Ovaries.....	5	2												
Cervix.....	24	1			1									
Endometrium.....	7													
Extremities:														
Arm.....	1	2	2											
Hand.....	1	6				1								
Elbow.....		2												
Fingers.....	1	1				1	1							
Leg.....	1	5	2											
Femur.....	1	1												
Foot.....	2	1												

TABLE IX
REGIONAL CLASSIFICATION OF TUMORS (Con.)

	Carcinoma	Sarcoma	Lipoma	Endothelioma	Leiomyoma	Papilloma	Fibroma	Adenofibroma	Myxofibroma	Myxoma	Chondroma	Adenoma	Adenomyoma	Haemangioma
Genitalia:														
Labia.....	1													
Prostate.....	6						1					15		
Vulva.....	1													
Urethra.....	1													
Penis.....	3					1								
Thyroid.....												43		
Groin.....	1													
Shoulder.....	1		5											

TABLE X (1918)

	Pos.	Neg.	Susp.	Unsatis- factory	Total
Diphtheria.....	107	796	21	61	985
Sputum for tuberculosis.....	199	627	..	1	827
Widals.....	85	226	51	6	368
Wassermann tests (+).....	62				
Wassermann tests (++).....	72				
Wassermann tests (++++).....	86				
Wassermann tests (+++++)....	245	1282	32	41	1820
Total.....	465				

TABLE XI (1919)

	Pos.	Neg.	Susp.	Unsatis- factory	Total
Diphtheria.....	436	2785	91	..	3312
Sputum for tuberculosis.....	445	976	..	1	1422
Widals.....	21	157	14	..	192
Wassermann tests (+).....	64				
Wassermann tests (++).....	60				
Wassermann tests (++++).....	75				
Wassermann tests (+++++)....	353	1846	48	..	2446
Total.....	552				

TABLE XII

POST-MORTEM EXAMINATIONS

Sex	Age	Clinical Diagnoses	Chief Anatomical Diagnoses
F....	4 mos....	Internal Hydrocephalus....	Acute ulcerative enteritis.
M....	30 years....	Empyema.....	Abscess of liver.
M....	11 mos....	Hydrocephalus.....	Internal hydrocephalus.
M....	New born....	Basilar haemorrhage.....	Sub-dural haemorrhage.
M....	3 weeks....	Acute pyelonephritis.....	Acute pyonephrosis.
M....	60 years....	Not made.....	Streptococcus pyogenes bac- teriaemia.
F....	New born....	Not made.....	Multiple infarcts of placenta.
F....	77 years....	Not made.....	Bilateral lobar pneumonia.
F....	3 days....	Not made.....	Oedema of brain. Patent foramen ovale.
M....	44 years....	Carcinoma of stomach (?)....	Carcinoma of stomach.
M....	2 days....	Not made.....	Oedema of brain.
F....	Still born....	Not made.....	Gangrene of soft tissues of head.
M....	Still born....	Not made.....	Patent ductus arteriosus.
M....	21 years....	Rupture of kidney.....	Rupture of kidney.
		Acute peritonitis.....	Acute peritonitis.
M....	Still born....	Not made.....	Oedema of brain and men- inges.
F....	Still born....	Spina bifida.....	Spina bifida of lumbar region.
F....	42 years....	Carcinoma of caecum.....	carcinoma of ovary.
M....	25 years....	Typhoid fever. Perforation of ileum.	Typhoid ulcers of ileum with perforation.
F....	65 years....	Not made.....	Acute gangrenous appendi- citis.
M....	40 years....	Not made (Sudden death)....	Strychnine poisoning (?)
F....	65 years....	Acute bronchitis.....	Acute pneumonitis
M....	24 years....	Not made (Sudden death)....	Myelomalacia of central gray matter.
F....	21 mos....	Acute poliomyelitis or tet- anus.	Acute miliary tuberculosis.
F....	New born....	Not made.....	Icterus neonatorum.
M....	42 years....	Cerebral haemorrhage (trau- matic)	Acute necrosis of pancreas with haemorrhage. Oede- ma of meninges.
M....	33 years....	Aortic regurgitation. Mitral regurgitation.	Mitral and aortic insuffi- ciency.
M....	11 years....	Acute appendicitis and gen- eral peritonitis.	Acute appendicitis with per- foration.
M....	30 years....	Poliomyelitis.....	Acute poliomyelitis.
M....	30 years....	Acute polioencephalitis.....	Tuberculous meningitis.
F....	43 years....	Chronic interstitial nephritis	Chronic interstitial nephritis.
M....	40 years....	Cancer of the oesophagus....	Carcinoma of oesophagus.
F....	23 years....	General sarcomatosis.....	Carcinoma of bladder and pelvic organs.
M....	32 years....	Aortic aneurysm.....	Carcinoma of the superior mediastinum. (Thymus).
F....	11 mos....	Syphilis of tongue.....	Syphilis of tongue. Bron- chopneumonia.
F....	New born....	Not made.....	Cephalohematoma.

TABLE XII

POST-MORTEM EXAMINATIONS

Sex	Age	Clinical Diagnoses	Chief Anatomical Diagnoses
M...	35 years...	Not made. (Sudden death)	Acute myelomalacia. Early acute meningitis.
M...	15 years...	Tuberculosis.....	Tuberculous osteomyelitis with secondary infection.
M...	69 years...	Steam burns.....	Multiple incised wounds of head and burns.
F...	One day...	Not made.....	Adrenal hæmorrhage.
F...	32 years...	Pneumonia.....	Lobar pneumonia.
M...	29 years...	Pneumonia.....	Bronchopneumonia.
F...	45 years...	Not made.....	Atrophic cirrhosis of liver.
F...	41 years...	Carcinoma of lungs.....	Carcinoma of lungs.
M...	90 years...	Growth in pelvis.....	Acute and chronic cystitis. Chronic cholecystitis, cholelithiasis. Carcinomatous growth in pelvis.
M...	58 years...	Not made.....	Carcinoma of stomach.
M...	34 years...	Stricture of oesophagus.....	Oesophageal stricture.
F...	15 years...	Tuberculosis of ovary.....	Tuberculous peritonitis.
M...	38 years...	Cerebral hæmorrhage.....	Chronic pachymeningitis.

Respectfully submitted,

ELLIS KELLERT, M. D.,

Director.



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Bender Hygienic Laboratory

*Report of the Director for the Year Ending August
31, 1916*

By ELLIS KELLERT, M. D.

Reprinted from Albany Medical Annals, June, 1917

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BENDER HYGIENIC LABORATORY.

REPORT OF THE DIRECTOR FOR THE YEAR ENDING AUGUST 31,
1916.

BY ELLIS KELLERT, M. D.

To the Trustees of the Bender Hygienic Laboratory:

Gentlemen.—I have the honor to submit my report for the year ending August 31, 1916.

It is my pleasure to record a very active year in the work of the laboratory. From the number of examinations made and the variety of specimens examined it appears that physicians are gradually feeling the influence of the Bender Laboratory and now realize to a greater degree than heretofore the value to themselves and to patients of pathologic reports. The results as shown in the tables appended below are most gratifying and augur well for the future practice of scientific medicine in and about Albany, a hope expressed by Dr. R. M. Pearce in his last annual report. It is needless to emphasize the importance to the physician and surgeon of complete examinations and the value of careful records. Frequent requests are received regarding specimens submitted years ago and the lack of such records would have resulted in serious embarrassment to the physician.

A case in point is the experience of a local surgeon, who removed a diseased appendix from a young man. A year later this same patient died in a hospital in a distant city. A necropsy was performed and the report stated that an appendix was found. This observation was not substantiated by any further data and our own records clearly indicated that an appendix was received on the date of the first operation and a microscopic section was found on file.

I. ORGANIZATION.

In January 1916, Dr. M. B. Beecroft (A. M. C. 1913) resigned to accept a position in pathology at the Kings County Hospital, Brooklyn. In April 1916, Dr. G. V. Genzmer (A. M. C. 1913) also resigned to accept a similar position in the same institution. They were succeeded by Dr. L. J. Early (A. M. C. 1914) who

had just completed a year of service in the Albany Hospital, and Dr. S. H. Curtis (A. M. C. 1914) then completing a year as resident physician at the Samaritan Hospital in Troy.

At this time and subsequently, it became evident that laboratory trained men were difficult to obtain. Inquiry elicited the fact that laboratories all over the country were seeking assistants. With your approval granted a year ago we have endeavored to obtain a graduate in medicine, trained in bacteriology, to act as assistant director, but without success. Trained men were available but at a salary far beyond the means of the laboratory. I would recommend to your consideration the plan of promoting one of our own assistants, who shall qualify for this position. This would enable us to retain the services of a man acquainted with our varied routine and one possessed of the confidence of the physicians of the city. Also, the prospect of promotion would act as an incentive to the assistants and perhaps result in a more keen interest in the activities of the laboratory.

During the past ten years, Dr. La Salle Archambault has been an active worker in the laboratory and interested in its success. He has labored most diligently as teacher and investigator and his contributions to the science of neurology have received wide recognition, both at home and abroad. Because of his earnest endeavors and the valuable services he is frequently able to offer the laboratory, I would recommend to your board that he be appointed a member of the staff.

II. THE WORK OF THE LABORATORY.

During the past year our contract with the city has been highly satisfactory from the standpoint of service. Because of the increase in the number of specimens for the Wassermann reaction, this test is now performed twice a week, each Tuesday and Friday and nearly the entire time of a technician is devoted to the work. For the collection of blood, a convenient container is provided with a sterile needle and these are distributed to the various stations about the city, of which there are now eight in number.

The laboratory is constantly investigating new diagnostic procedures as they arise; when found practical and of value, they are incorporated as a part of the routine. Thus, after a year of observation it was decided to send out reports on cerebrospinal fluid examined by Lange's colloidal gold method. This test differentiates certain diseases of the central nervous system and is most useful in cases of syphilis and tuberculosis. A report of our results with this new test is now in preparation.

The following tables are arranged to convey a better idea of the material received at the laboratory. The tabulation includes not only the variety of specimens, but also the sex, age, and the results of the examination. Such figures it is believed may eventually prove of some value from a statistical standpoint, and their value will be greatly enhanced when it becomes possible to use the clinical data.

TABLE I

ROUTINE EXAMINATIONS MADE AT THE BENDER HYGIENIC LABORATORY
FROM SEPT. 1, 1915 TO SEPT. 1, 1916

	General bacteriology and clinico- pathological examina- tions	Surgical specimens	Post- mortem examina- tions	Total
Albany Hospital.....	3,164	1,297	31	4,492
St. Peter's Hospital.....	368	596	10	974
Child's Hospital and St. Mar- garet's Home.....	45	54	5	104
City Department of Health..	6,203	2	.....	6,205
Homeopathic Hospital.....	315	317	3	635
All other sources.....	1,762	436	29	2,227
Total.....	11,857	2,702	78	14,637

2,548 should be subtracted from the bacteriological total. This figure represents the diagnostic work, chiefly for Pavilion G., also Wassermann tests performed for the various hospitals, which are included under City Health Work. Corrected total number of specimens exam. 12,089.

TABLE II (Special tests included in Table I.)

	1912	1913	1914	1915	1916
Animal inoculations.....	64	23	63	86	134
Wassermann reactions.....	412	621	904	1,153	1,465
Blood cultures.....	29	33	36	59	68
Autogenous vaccines prepared....	15	45	49	58	116
Milk examinations.....	25	137	366	580	1,104
Totals.....	545	859	1,418	1,936	2,887

TABLE III—GENERAL PATHOLOGICAL SPECIMENS

	Male	Fe- male	Total	Max. age	Min. age
Breast:					
Chronic inflammation.....	4	24	28	63	23
Cystic.....	..	2	2	35	..
Sarcoma.....	..	1	1	62	..
Carcinoma.....	1	47	48	72	29
Adeno-fibroma.....	..	3	3	38	22
All other tumors.....	..	13	13	41	9
Carcinoma:					
Lip.....	13	..	13	70	31
Skin.....	2	2	4	74	37
All others.....	37	19	56	72	35
Gall-bladder:					
Acute and chronic inflammation.....	2	6	8	54	30
Chronic inflammation.....	6	13	19	65	31
Carcinoma.....	..	1	1	..	..
Calculus.....	6	12	18	54	24
Hemorrhoids.....	33	25	58	68	25
Hernia sac.....	86	22	108	78	8
Hodgkin's disease.....	..	7	7	49	31
Kidneys:					
Calculus.....	..	3	3	44	29
Acute inflammation.....	1	2	3	48	..
Tuberculosis.....	1	..	1	..	..
Lymph nodes—neck:					
Tuberculosis.....	18	22	40	57	2½
Sarcoma.....	1	..	1	48	..
Carcinoma.....	9	2	11	77	35
Others.....	10	8	18	68	21
Prostate gland:					
Chronic inflammation.....	17	..	17	76	47
Lipoma.....	1	..	1	54	..
Carcinoma.....	4	..	4	59	58
Sarcoma.....	10	10	20	69	2½
Testicle:					
Tuberculosis.....	4	..	4	57	33
Syphilis.....	1	..	1	29	..
Acute and chronic inflammation.....	4	..	4	54	50
Thyroid glands:					
Chronic inflammation.....	..	10	10	47	22
Colloid goitre.....	2	13	15	59	16
Exophthalmic goitre.....	1	6	7	62	24
Adenoma.....	..	2	2	38	36
Tuberculosis of bone.....	1	3	4	60	40
Other specimens of tuberculosis.....	11	4	15	63	22
All other specimens.....	322	412	734	76	4 mo.

TABLE IV

SURGICAL SPECIMENS CONSISTING OF UTERUS, ADNEXA AND APPENDIX

	Mar- ried	Civil condition not indi- cated	Total	Max. age	Min. age
Uterus:					
Chronic metritis.....	29	16	45	67	21
Hypertrophy.....	1	7	8	60	24
Leiomyoma and hypertrophy.....	48	29	77	71	26
Negative.....	23	4	27	75	27
Atrophy.....	5	2	7	58	28
Carcinoma.....	5	5	10	66	39
Sarcoma.....	2	..	2	49	..
Endometrium:					
Glandular hyperplasia.....	22	10	32	59	21
Carcinoma.....	6	1	7	71	31
Interstitial hyperplasia.....	4	3	7	49	34
Negative.....	41	17	58	75	18
Acute inflammation.....	5	..	5	48	21
Chronic inflammation.....	6	..	6	50	39
Cervix:					
Hypertrophy.....	32	11	43	71	23
Nabothian cysts.....	18	13	31	75	33
Chronic inflammation.....	28	5	33	71	21
Negative.....	19	8	27	56	21
Carcinoma.....	11	..	11	62	35
Tubes:					
Negative.....	35	18	53	67	24
Carcinoma.....	1	..	1	31	..
Cysts.....	17	10	27	60	26
Acute inflammation.....	6	..	6	71	30
Chronic inflammation.....	27	15	42	60	23
Acute and chronic inflammation.....	14	8	22	53	19
Tuberculous salpingitis.....	4	1	5	53	20
Lipomata.....	1	..	1	57	..
Ovaries:					
Negative.....	52	12	64	65	26
Chronic inflammation.....	19	10	29	53	18
Simple cysts.....	28	18	46	67	22
Ovarian cysts.....	3	3	6	39	25
Dermoid cysts.....	3	2	5	66	24
Carcinoma.....	1	..	1	56	..
Sarcoma.....	1	..	1	..	..
Tuberculosis.....	..	3	3	36	34
All other tumors.....	4	3	7	57	36
*Appendix:					
Retrograde changes.....	12	2	14	67	28
Chronic inflammation.....	28	17	45	60	21
Chronic obliterating inflammation.....	12	1	13	55	31
Negative.....	15	7	22	60	21
Total.....					197 cases

* Removed during hysterectomy.

TABLE V

APPENDICES

	Male	Max. age	Min. age	Fe- male	Max. age	Min. age	Total
Retrograde changes.....	17	64	17	41	51	10	58
Acute inflammation.....	20	59	6	9	44	12	29
Chronic inflammation.....	71	58	4	174	63	2½	245
Acute and chronic inflam- mation.....	49	69	4	32	55	7	81
Acute gangrenous.....	36	58	4	13	47	8	49
Tuberculous periappendicitis.	1	19	..	2	21	20	3
Chronic obliterating inflam- mation	15	52	18	27	55	20	42
Periappendicitis.....	4	45	11	4	57	23	8
Negative.....	6	39	6	13	55	12	19
Total.....	534 cases						

TABLE VI

UTERINE CURETTINGS

	Mar- ried	Max. age	Min. age	Civil condition not indi- cated	Max. age	Min. age	Total
Interstitial hyperplasia.....	2	28	25	1	..	..	3
Glandular hyperplasia.....	27	57	21	8	49	22	35
Acute and chronic inflam- mation	11	35	21	5	38	22	16
Carcinoma.....	5	71	48	1	55	..	6
Negative.....	16	59	24	10	35	20	26
Pregnancy.....	7	41	21	2	38	35	9
Total.....	95 cases						

TABLE VII
SURGICAL SPECIMENS CONSISTING OF APPENDIX, TUBE AND OVARY

	Mar- ried	Civil condition not indi- cated	Total	Max. age	Min. age
Appendix:					
Retrograde changes.....	3	3	6	36	21
Chronic inflammation.....	12	8	20	35	20
Acute and chronic inflammation.....	1	1	2	45	35
Chronic periappendicitis.....	1	1	2	27	24
Negative.....	4	7	11	42	19
Fallopian tubes:					
Chronic salpingitis.....	9	9	18	42	17
Acute and chronic salpingitis.....	7	5	12	45	21
Acute congestion.....	..	1	1	17	..
Pregnancy.....	..	2	2	35	25
Haemotosalpinx.....	2	2	4	35	19
Hydrosalpinx.....	1	..	1	26	..
Atrophy.....	..	1	1	51	..
Peritoneal cysts.....	2	..	2	28	27
Negative.....	3	6	9	33	15
Ovaries:					
Chronic inflammation.....	2	..	2	..	..
Acute and chronic inflammation.....	1	2	3	23	21
Simple cyst.....	5	9	14	35	15
Unilocular cyst.....	2	3	5	33	25
Haemorrhagic cyst.....	..	3	3	36	28
Parovarian cyst.....	7	1	8	45	21
Adeno cystoma.....	3	..	3	41	..
Negative.....	6	6	12	51	17
Periovaritis.....	7	1	8	45	21
Dermoid cyst.....	1	..	1	24	..
Total.....				52	cases

TABLE VIII
POST-MORTEM EXAMINATIONS

Sex	Age	Clinical diagnosis	Chief anatomical diagnoses
Female...	44 years..	Pulmonary tuberculosis.	Pulmonary and mesenteric tuberculosis
Female...	23 years..	Tumor of brain.....	Cerebellar cyst
Male....	29 years..	Typhoid fever.....	Typhoid ulcerations of intestine
Female...	46 years..	Peritonitis.....	Perforated gastric ulcer. General peritonitis
Female...	58 years..	Cirrhosis of liver.....	Portal cirrhosis of liver

TABLE VIII—Continued

Sex	Age	Clinical diagnosis	Chief anatomical diagnoses
Female...	64 years..	Oedema of brain.....	Oedema of brain. Dilated ventricles Oedema of lungs
Male.....	38 years..	Chronic appendicitis....	Abscess of abdominal wall. Streptococcus pyogenes
Female...	17 years..	Pulmonary tuberculosis..	Pulmonary tuberculosis. Meningeal tuberculosis
Female...	40 years..	Carcinoma of intestine..	Multiple carcinomata of colon
Male.....	38 years..	Pulmonary abscess.....	Pulmonary abscess, pyonephrosis (staphylococcus pyogenes aureus)
Male.....	24 years..	Typhoid fever.....	Typhoid ulcerations of ileum and colon. Pneumonia
Female...	62 years..	Carcinoma of rectum and pylorus.....	Carcinoma of rectum. Carcinoma of pylorus
Female...	43 years..	Cerebral hemorrhage (left side).....	Cerebral hemorrhage (left internal capsule) Acute peritonitis (pneumococcus) Lobar pneumonia
Female...	33 years..	Tumor of brain.....	Glioma (right parietal lobe)
Female...	56 years..	Pulmonary tuberculosis. Cerebral hemorrhage..	Pulmonary tuberculosis. Cerebral hemorrhage
Male.....	38 years..	Cirrhosis of liver.....	Biliary (hypertrophic cirrhosis of liver)
Male.....	38 years..	Not made.....	Hypertrophic cirrhosis of liver. Hypertrophy of spleen. Ascites
Male.....	5 years..	Stenosis of pylorus.....	Congenital atresia of small and large intestine
Male.....	46 years..	Addison's disease.....	Tuberculosis of lungs and adrenal glands
Male.....	68 years..	Carcinoma of prostate...	Carcinoma of prostate. Pleural effusion
Female...	16 years..	Purpura.....	Purpura. Bronchopneumonia
Male.....	35 years..	Tumor of pelvic bones...	Sarcoma of abdominal wall pelvic bones, liver and lung
Female...	48 years..	Not made.....	Gangrene of ileum, acute dilatation of stomach
Female...	5 years..	Acute colitis.....	Acute parenchymatous nephritis, acute iliocolitis. Broncho-pneumonia
Male.....	28 years..	Cerebral abscess.....	Abscess, left temporal lobe. Acute otitis-media
Female...	70 years..	Carcinoma of stomach...	Chronic gastritis with marked dilatation
Female...	46 years..	Carcinoma.....	Carcinoma of pancreas. Extensive metastases to liver
Female...	6 years..	Brain tumor.....	Cerebellar lympho-sarcoma

TABLE VIII—Continued

Sex	Age	Clinical diagnosis	Chief anatomical diagnoses
Male.....	68 years..	Not made.....	Acute ulcerative colitis, acute peritonitis, lobar pneumonia, marked arteriosclerosis
Male.....	43 years..	Aneurysm of aorta.....	Aneurysm of thoracic and abdominal aorta, empyema
Male.....	40 years..	Chronic nephritis.....	Chronic parenchymatous nephritis
Male.....	69 years..	Carcinoma of prostate...	Carcinoma of prostate
Male.....	60 years..	.....	Chronic diffuse nephritis. Hypertrophy of heart
Male.....	5 months.	Not made.....	Staphylococcus pyogenes aureus bacteriaemia
Male.....	1 year...	Pneumonia.....	Lobar pneumonia (Friedlander's bacillus)
Male.....	3 months.	Not made.....	Oedema of brain. Myxoma of cord
Male.....	35 years..	Syphilitic meningitis...	Chronic lepto-meningitis (syphilitic)
Male.....	45 years..	Carcinoma of pancreas..	Carcinoma of pancreas with metastases to liver
Male.....	4 years..	Pneumonia.....	Broncho-pneumonia
Female...	2½ years..	Pneumonia.....	Broncho-pneumonia. Acute bronchitis
Male.....	41 years..	Tuberculosis.....	Miliary tuberculosis. Tuberculous peritonitis
Male.....	17 months	Hydrocephalus.....	Megalocephaly. External hydrocephaly
Female...	15 years..	Otitis media with cerebral abscess.....	Acute lepto-meningitis ((streptococcus) Otitis-media
Female...	29 years..	.....	Acute endocarditis
Male.....	55 years..	Tumor of brain.....	Glioma, parietal and temporal lobes (left)
Male.....	51 years..	Myocardial insufficiency.	Fatty infiltration of heart. Acute dilatation
Male.....	22 years..	Anaemia.....	Anaemia. Acute pneumonitis
Female...	53 years..	Paget's disease of breast Tumor of brain.....	Metastatic carcinoma of brain
Male.....	73 years..	Carcinoma of stomach...	Carcinoma of stomach with metastases to pancreas and liver
Female...	39 years..	Carcinoma of breast. Syphilis of rectum....	Carcinoma of breast. Syphilis of rectum and perforation. Acute peritonitis
Male.....	55 years..	Abscess of lung.....	Abscess of lung. Organizing pneumonia
Female...	50 years..	Cirrhosis of liver.....	Hanot's cirrhosis of liver. Acute and chronic nephritis

TABLE VIII—Continued

Sex	Age	Clinical diagnosis	Chief anatomical diagnoses
Male....	6 days...	Not made.....	Hypertrophy of thymus
Male....	2 years...	Lobar-pneumonia.....	Broncho-pneumonia
Male....	36 years..	Pernicious anaemia. Pleurisy with effusion.	Miliary tuberculosis. Ascites. Pleural effusion
Female...	34 years..	Syphilitic or alcoholic meningitis.....	Fatty cirrhosis of liver. Oedema of brain
Female...	70 years..	Myocardial insufficiency.	Rupture of heart. Coronary Thrombosis. Fatty de- generation of heart
Male....	41 years..	Carcinoma of pylorus...	Fibrosis of pylorus. (Fibro- plastic gastritis.) Ulcer- ative colitis
Male....	45 years..	Myocardial insufficiency sciatic neuritis. Pul- monary thrombosis...	Sarcoma of pleura. Pulmon- ary thrombosis
Male....	35 years..	Acute cholecystitis. Dia- betes.....	Chronic pancreatitis
Male....	34 years..	Addison's disease.....	Atrophy of adrenal gland. Chronic pericarditis
Female...	36 years..	.....	Acute and chronic colitis. Acute pyonephrosis
Male....	45 years..	Chronic interstitial neph- ritis.....	Chronic interstitial nephri- tis. Mural thrombi of heart. Infarction of lung and kidney
Male....	59 years..	Pneumonia.....	Massive lobar pneumonia
Male....	55 years..	.....	Hypertrophy and dilatation of heart. Oedema of brain
Male....	45 years..	Pulmonary infarct.....	Pulmonary infarct. Gan- grene of lung. Mural thrombi of heart
Male....	75 years..	Intestinal obstruction...	Torsion of mesentery. Marked arteriosclerosis
Female...	10 years..	Nephritis.....	Acute intracapillary glom- ero-nephritis
Male....	New born.	Not made.....	Meningeal hemorrhage
Female...	20 months	Pneumonia.....	Pneumonia
Female...	34 years..	Pulmonary and periton- eal tuberculosis.....	Pulmonary tuberculosis. Tuberculous peritonitis
Male....	49 years..	Aneurysm.....	Hypertrophy of heart. Cor- onary sclerosis
Female...	13 months	Intestinal catarrh.....	Acute congestion of organs
Female...	4 years..	Poliomyelitis.....	Poliomyelitis
Female...	New born.	Premature birth.....	Premature birth
Male....	7 days...	Obstruction of oesopha- gus.....	Congenital atresia of the oesophagus

Among the more interesting cases of which an exceptionally large number were encountered during the year, are the following: anencephaly and spinabifida, fibroma of the intestine causing intussusception, Hanot's cirrhosis of the liver, hypertrophy of the brain in an infant, multiple metastases to the brain from Paget's disease of the nipple, double glioma of the brain, brain abscess due to the *B. proteus*, congenital atresia of the intestine, congenital atresia of oesophagus, two cases of granuloma fungoides, two cases of sarcoma of the uterus, and a case of a peculiar giant-celled reaction in the subcutaneous fat of an infant.

III. TEACHING.

During the school year 1915 to 1916 the following laboratory courses were given for the students of the Albany Medical College:

Course	Hours per week	Weeks	
1. Pathology and bacteriology.....	36	12	Drs. Kellert, Beecroft and Genzmer
2. Anatomy and pathology of the nervous system.....	3	32	Dr. Archambault
3. Experimental physiology.....	24	17	Dr. Gruber
4. Experimental pharmacology.....	8	13	Dr. Gruber
5. Clinical pathology.....	3	32	Dr. Gorham
6. Surgical pathology.....	2½	24	Dr. Donhauser
7. Bacteriology for nurses.....	1	10	Dr. Kellert

The courses in histology, physiology, and clinical pathology, formerly held at the Bender Laboratory, are now being given at the Albany Medical College where laboratories have been built for their accommodation. The transfer of these studies has relieved the staff at the Bender Laboratory but slightly, because with their removal there has also been withdrawn one assistant who formerly took active part in the teaching and routine.

Under the new plan of teaching adopted by the medical college, the so-called "concentration or block system," the work in pathology and bacteriology now occupies 36 hours each week during the teaching period instead of 12 hours as in former years. This has necessitated a greatly increased effort on the part of

the staff in order that no delay occur in reporting on routine specimens. If the same plan of teaching is to prevail, it will be highly desirable to secure another medical assistant or at least a technician.

IV. FINANCIAL STATEMENT.

The following statement of accounts indicates the earnings and expenditures of the office of the director:

LABORATORY INCOME.

From Sept. 1, 1915, to Sept. 1, 1916.

Balance on hand	\$598 62
Contracts with hospitals and physicians.....	1,628 36
Examination of specimens other than above noted.....	2,759 83
Miscellaneous	143 97
Total	<hr/> \$5,130 78

LABORATORY EXPENSES.

From Sept. 1, 1915, to Sept. 1, 1916.

Salaries	\$3,654 70
Petty accounts, including office supplies, express, postage stamps, refund to students for locker keys, and carfares.....	145 95
Telephone	81 40
Laboratory supplies and equipment	951 60
Books	96 93
Stationery	64 53
Laundry	32 67
Animals and maintenance	255 52
Total	<hr/> \$5,283 30
Total expenditures for the year.....	\$5,283 30
Total income for the year.....	<hr/> 5,130 78
Deficit Sept. 1, 1916	\$152 52

We are pleased to add to our list of physicians with whom annual contracts are made, the names of Dr. C. G. McMullen of Schenectady, Dr. J. I. Dowling of Albany and Dr. J. L. Edwards of Hudson. I also wish to acknowledge a very substantial annual contribution from Dr. G. C. Madill of Ogdensburg. These contracts for which sums varying in amount from 300 to 100 dollars are received have proven so eminently satis-

factory to those taking advantage of them that the list should be much larger. Thus for a comparatively small sum a physician may have all his diagnostic work performed and be assured that complete records are always available, in addition to the reports which he receives.

From the above account it will be seen that the earnings of the office of the director are steadily decreasing. This may be attributed chiefly to the loss of income from serological examinations which have now become public health measures and fall within the city contract. Locker fees from students have also greatly diminished. In 1914, \$407.00 were received from this source, and in 1916 \$50.75. This is due to fewer medical students in the college and the withdrawal of certain courses from the laboratory. The augmentation of the salary list has also aided in producing a deficit in the funds of the director.

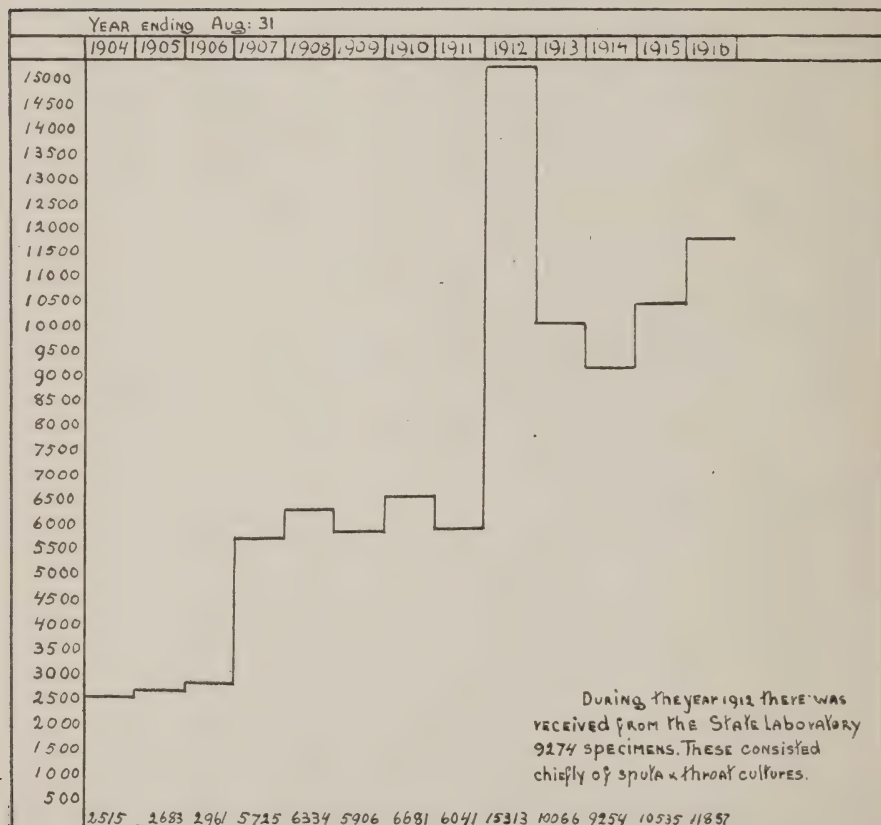
Because of these changes it appears that a readjustment of the finances of the laboratory will be necessary. At the present time, two separate accounts exist—one in the hands of the director of the laboratory and the other in charge of the treasurer of the board of trustees. Because of this arrangement there may arise in the future confusion as to the responsibility for the payment of certain bills. It would, therefore, seem more logical to have but one account.

The following charts serve to illustrate in a graphic manner the yearly total of examinations made since 1914.

In charts I and II there is noted a gradual increase in the number of specimens received. Chart III shows a rapid drop in the number of necropsies performed since the year 1909. This decrease at a time when the laboratory had reached a high degree of efficiency is difficult to understand. An investigation of the records discloses the fact that prior to 1910 many post-mortem examinations were conducted for coroners' physicians who collected and retained the fee for such work. In every instance a complete report with microscopic diagnoses was received by the physician. As the coroners' physicians changed from year to year, fewer and fewer examinations were made until the present time when none are performed for them by the laboratory. No satisfactory explanation having been received, we

naturally conclude that the office of the coroner is no longer interested in complete records or in the scientific investigation of disease and death. This is very unfortunate and a distinct

CHART I
GENERAL - BACTERIOLOGY



loss to the community, for coroner's cases are largely those of sudden or obscure death which usually demand all the facilities of a large and well equipped laboratory.

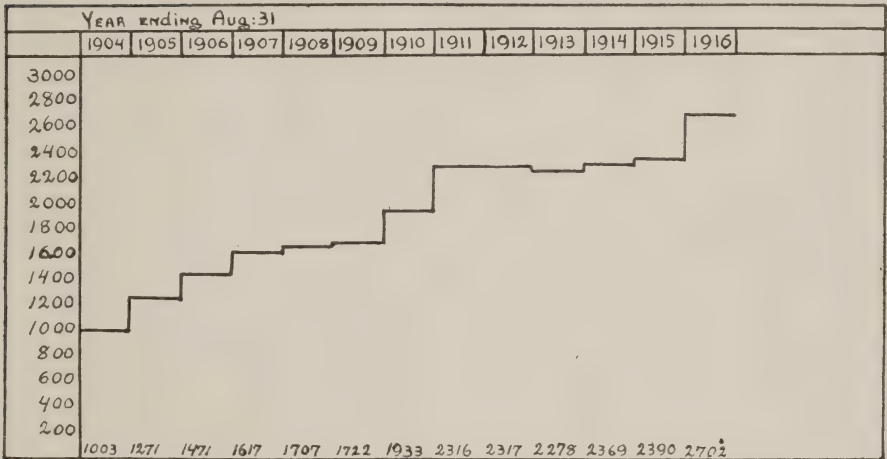
V. REPAIRS AND ADDITIONS.

The woodwork on the outside of the building has been repainted, the masonry and front steps repaired. To the brick vault in the cellar now used as a stock room, a double fireproof door has been added. The gas heater and furnace have been cleaned and repaired. A new water still has also been purchased.

For the office there has been provided a filing system made of metal, the sections being of standard size. This forms a very welcome addition to the office furniture. The rapidly accumu-

Chart II

Surgical Specimens



lating volumes of records and journals will require additional sections. There has also been added a new desk, typewriting machine and chairs.

In order to avoid all criticism regarding the disposal of animal tissues, there was purchased a gas incinerator which has proven very satisfactory. Many new window shades have been purchased and the sinks and faucets repaired.

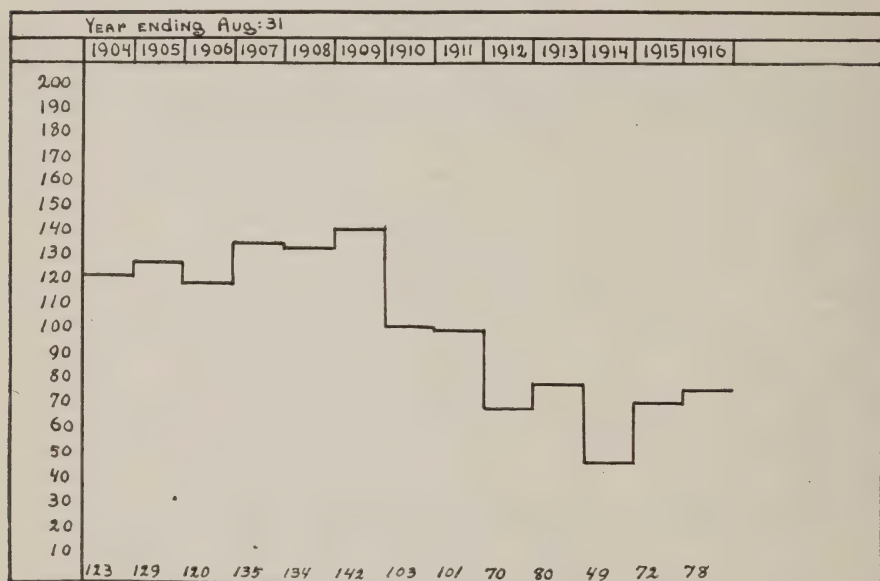
VI. THE CENTRAL LABORATORY IDEA.

When this laboratory was first organized in 1895, it was one of the few institutions of its kind in the country. Pathological laboratories then existed only in connection with the best hos-

pitals, larger medical schools and cities of the first class. The rapidly increasing demand for diagnostic services led to the building of laboratories by states, counties and even the smaller cities and hospitals. Laboratory studies dominated the curricula of medical schools and the running expenses mounted so rapidly that these institutions found themselves operating at a great loss. This increase in the cost of medical education continued and has become more manifest in recent years.

Chart III

Post - MORTEM - EXAMINATIONS



Albany found itself in a peculiarly fortunate position. A stately structure with equipment and organization was provided to serve the public, the hospitals and the medical college. The Bender Laboratory situated within easy working distance, became the pathological department of these hospitals and the college, which by their comparatively small contributions helped to maintain this laboratory and received in return services which otherwise would have cost many thousands of dollars annually. That the arrangement is a mutually satisfactory one is attested by

the fact that the same relations are maintained year after year. Thus it appears that an experiment in efficiency and economy has been tried and proven successful. There remains but expansion in a similar manner. From inquiries which the director has received, it seems that there is a tendency in the larger cities to centralize laboratory work and avoid the unnecessary expense of duplication.

The example of the Bender Laboratory, a centralized institution serving five hospitals with a total of 1,198 beds and a city of more than 100,000 inhabitants, is being followed by other communities. Because of these advantages, any suggestion or act tending to disturb such an arrangement should meet with great disfavor, particularly from those who would be called upon to give financial support to a number of different laboratories, each performing the same kind of work.

In conclusion I wish to express my appreciation of your active interest and cooperation.

Respectfully submitted,

ELLIS KELLERT, M. D.,

Director.

UNIVERSITY OF ILLINOIS-URBANA



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